

ministry of
environment

**A Review of the
British Columbia Litter Act**



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**A REVIEW OF
THE BRITISH COLUMBIA LITTER ACT**

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**Planning and Assessment Branch
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FOREWORD

This report is one of three background papers prepared for the Ministry of Environment's review of municipal solid waste management options for British Columbia. From the results of these background papers, plus other research conducted by Ministry staff, the Ministry of Environment has developed a set of 15 proposals designed to assist municipalities and regional districts manage their municipal solid waste disposal problems. The proposals are contained in the Ministry of Environment's recently released publication "The Provincial Role in Municipal Solid Waste Management: A Discussion Paper", copies of which are available from the Ministry. In addition, the Minister of Environment, the Honourable Bruce Strachan, has appointed a Ministry Task Force, chaired by James T. Rabbitt, MLA, Yale-Lillooet and Parliamentary Secretary to the Minister, to conduct a public review of the proposals prior to any implementation.

This report provides the rationale and the basis for the proposals contained in the Ministry discussion paper dealing with the Litter Act and beverage container control. However, it must be emphasized that the recommendations of this report do not yet represent Government policy. The public review will first seek comments from local governments, industry, interest groups, and the general public before any final decisions are made.

SECTION ONE

INTRODUCTION

1.1 PURPOSE

The purpose of this report is to review and assess the effectiveness of British Columbia's Litter Act. In particular the Act's provisions for the control of beverage containers will be closely examined as they have proven to be the most controversial element of the Act. The Act will be compared to legislation adopted in other provinces and to alternative litter control programs used in other parts of the world. Several frequently heard criticisms of the Act will also be reviewed and assessed for validity.

1.2 OUTLINE OF THE REPORT

Section Two outlines the reasons why the Litter Act was introduced and describes the provisions of the Act. Included is a discussion of the immediate impacts the Act had and the results of a subsequent assessment of the Act, conducted in 1980. Also included is an explanation of the potential differences between the manner in which a refund system works and how a deposit system works. These differences are important because British Columbia has a refund system and it is possible that a refund system can diverge from the manner in which a deposit system operates. Finally, the section ends with a review of recent market developments in the beer and soft-drink markets to see if the current refund system is diverging from a deposit system.

Section Three examines the legislation adopted in other jurisdictions to handle the problem of litter and beverage container control. The section includes a review of legislation in eight other provinces and several U.S. states and other foreign countries.

Section Four presents a series of frequent criticisms of the Litter Act and of deposit systems in general. Each criticism is reviewed and to the extent possible assessed for validity. Eight points of criticism are discussed.

Finally, Section Five presents the conclusions of this review. A list of recommendations is included which it is hoped would improve and correct the current provisions of the Act.

SECTION TWO

THE LITTER ACT

2.1 INTRODUCTION

In moving second reading of Bill 33 - the Litter Act the Honourable W. K. Kiernan, Minister of Recreation and Conservation, stated that its purpose was "to protect and preserve a high quality environment" in British Columbia (British Columbia, 1970, p. 670). The provisions of the Act which deal with beverage containers were included "to reduce the burden of litter control in our parks, wilderness areas, and on Crown land by making it mandatory that certain types of beverage containers shall be refundable if returned to the place of sale." The government of the day believed the Act was necessary because of public concern over increasing litter rates, particularly beverage container litter. At that time the use of refillable bottles by brewers and soft-drink bottlers was dropping sharply as the use of nonreturnable one-way containers, also called "throw-away" containers, increased. It is estimated that in British Columbia during 1970 the market share of soft-drink sales in refillable bottles had fallen to 48% (A. E. Nielsen Co. Ltd., 1972). The Act received third reading on March 24, 1970 and its provisions came into effect on January 1, 1971. A copy of the Act is attached as Appendix A.

2.2 PROVISIONS OF THE ACT

The Litter Act contains two major provisions. First, it prohibits littering. "No person shall discharge, dump, discard or dispose of litter on any land or water or ice thereon ..." (Section 3 of the Act). Second, it requires that retailers of beer and soft-drinks pay to consumers a refund for returning beverage containers to the point of sale. Retailers must accept for refund containers delivered to him which are the same kind and class which he sells provided the container is not in a flattened, rusty,

dirty or damaged condition. The Act stipulates that a minimum refund of 2¢ will be paid although subsequent regulations made pursuant to the Act have increased this minimum refund. Currently the minimum refund requirements are:

1. Beer Containers - 2¢ on all sizes
2. Soft-Drink Containers - 5¢ on under 460 ml. sizes
- 10¢ on 460 ml. - 1.1 l. sizes
- 30¢ on over 1.1 l. sizes

The actual refunds typically being paid by retailers are:

1. Beer Containers - 10¢ for bottles
- 5¢ for cans
2. Soft-Drink Containers - 10¢ for bottles under 460 ml.
- 5¢ for cans
- 20¢ for 460 ml. - 1.1 l. sizes
- 30¢ for sizes over 1.1 l.

Other provisions of the Act includes:

1. the prohibition of the unauthorized discharge of sewage from trailers, campers and boats.
2. the requirement for the establishment of toilet facilities at camps.
3. the establishment of ticket summons for offences under the Act.
4. the authorization of the Lieutenant Governor in Council to make regulations under the Act.

The penalties for violations of the Act includes a fine of up to \$500 and/or imprisonment of up to six months.

The regulations made pursuant to the Act require that no part of a metal container can be detachable without the use of a can opener. This requirement was instituted to do away with the "pull-top" or "easy-opening" detachable tabs. The regulations also require that containers "bear the words 'return for refund' or 'money-back bottle' in clear, prominent letters." Finally, the regulations require retailers to accept only up to 24 containers for refund per consumer per day.

To facilitate the consolidation of legislation under the Waste Management Act, Section 41 of the Act states that "the Litter Act is repealed". The intention would be to replace the provisions of the Litter Act with new regulations under the Waste Management Act. However, Section 41 has never been proclaimed and the Litter Act remains in full force today.

2.3 THE IMPACT OF THE ACT

Prior to the introduction of the Litter Act the market share of beverages sold in refillable bottles had fallen sharply particularly for soft-drinks. For example, in 1970, the year the Act was introduced, the market share of soft-drinks sold in refillable bottles had dropped to an estimated 48%. The provisions of the Act which came into effect on January 1, 1971 quickly reversed this trend. The market share of refillable bottles had increased to 72% of soft-drink sales by the end of 1971 and was 76% by the end of 1972 (A. E. Nielsen Co. Ltd., 1972).

THE HARE REPORT

In 1980, a major review of the Litter Act was conducted for the Ministry of Environment's Waste Management Branch by Dr. Michael J. Hare, an economic and environmental consultant. The final report of this review,

entitled "A Waste Management Assessment of the British Columbia Litter Act", has become known as the Hare Report. The purpose of the report was:

1. To determine if the present refund system was considered to be 'waste management effective';
2. to identify any improvements to the existing refund system;
3. to examine the possible extension of the refund system to include wine and liquor containers plus single-sized fruit juice containers;
4. to examine the possible conversion of the present return-to-retailer redemption system to a 'universal' depot redemption system such as that used in Alberta.

The report determined whether or not the refund system was 'waste management effective' based on four criteria; the ability to reduce litter, post-consumer solid waste, energy expended per beverage container and virgin resource use per beverage container.

The main findings of the report were:

1. The existing beverage container refund system was judged to be 'waste management effective';
2. that significant waste management gains were possible through initiatives which could raise the return rate for refillable containers or which raise the return rate and recycling of non-refillable containers;
3. the extension of the refund system to cover wine and liquor containers or alternatively the collection of these containers by a household source separation program were deemed to be 'waste management effective';
4. the extension of the refund system to include single drink size fruit juice containers would be 'waste management effective' if the bimetallic cans were recycled after redemption;
5. the change of the refund system from a return-to-retailer redemption system to a 'universal' depot redemption system was not considered to be more 'waste management effective' (Hare, 1980).

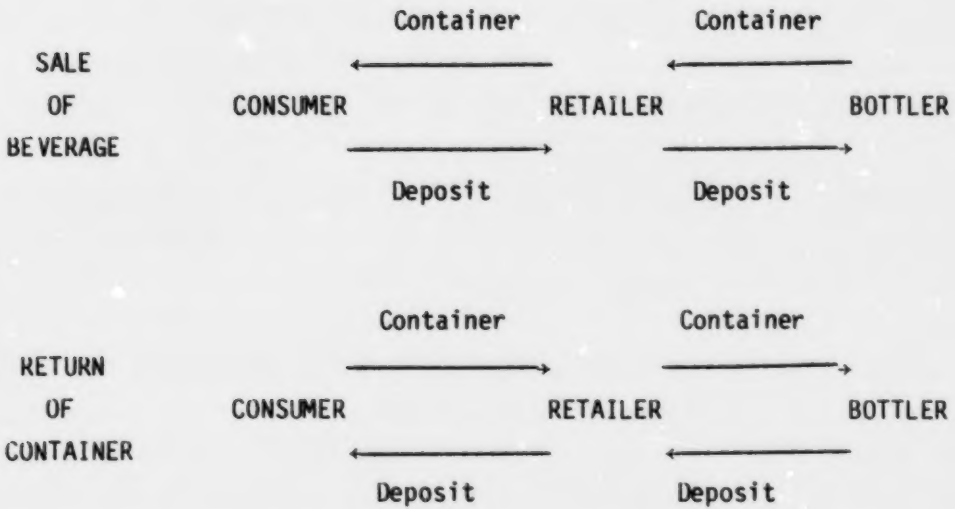
2.4 DIFFERENCES BETWEEN A DEPOSIT SYSTEM AND A REFUND SYSTEM

The Litter Act mandates that a refund be paid by the retailer to a consumer who returns a soft-drink or beer container to its point of purchase. However, the Act does not require that a deposit be paid by either the retailer or consumer when purchasing the beverage. Because a deposit is not required the manner in which a refund system works can diverge from that of a deposit system. It is important to recognize the differences between the two systems in order to understand the recent changes in the soft-drink market.

The manner in which a deposit system and a refund system work are shown in Figure 2-1. In the figure solid lines indicate required transactions while the dashed lines indicate optional transactions. Under a deposit system the retailer when purchasing beverages pays a deposit to the bottler for the beverage containers. When the retailer sells the beverage to the consumer the retailer in turn collects a deposit from the consumer. The consumer now has a monetary incentive to return the beverage container to the retailer in order to redeem his deposit. Once the consumer has returned the container to the retailer, the retailer would then have a monetary incentive to return the container to the bottler. Under a deposit system it is the bottler which retains any foregone deposits by consumers who do not return their containers.

Under a refund system the payment of deposits by retailers and consumers is not required. However, retailers, who must provide a refund to consumers returning containers, would have poor business sense not to charge a deposit. Instead, the major difference between a deposit and refund system occurs between the retailer and the bottler. If all bottlers voluntarily choose to charge deposits on their beverage containers then the refund system will work identically to the deposit system. This was the case when the Litter Act was first introduced. However, retailers in general object to the return of containers through their business premises as they require sorting, storage, and handling without specific allowance from the bottle for the extra service required. In recent years market pressure has lead increasingly to the establishment of agreements between

A - A DEPOSIT SYSTEM



B - A REFUND SYSTEM

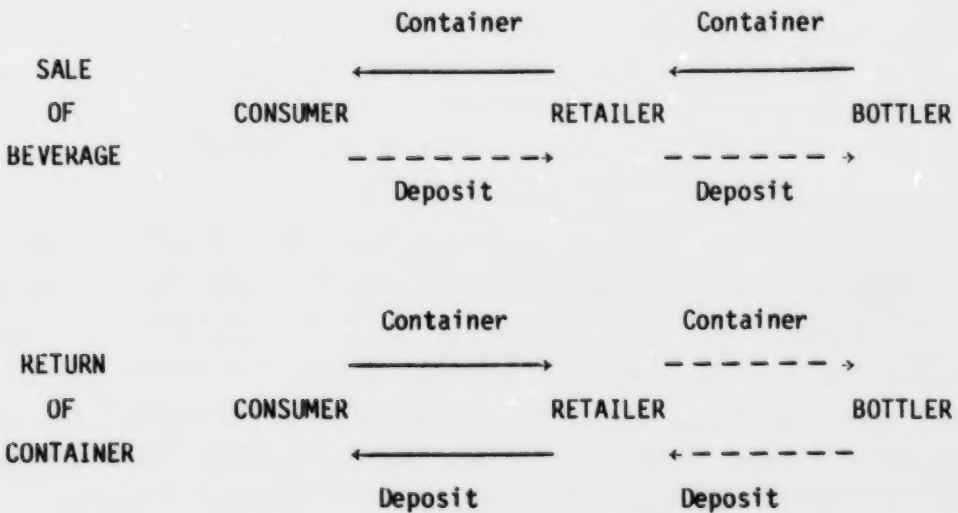


FIGURE 2-1
MECHANICS OF DEPOSIT AND REFUND SYSTEMS

bottlers and retailers under which bottlers agree not to collect a deposit from the retailers and the retailers agree to accept responsibility for the disposal of any containers returned to them. Under this type of arrangement it is the retailer rather than the bottler who retains any unredeemed consumer deposits. Furthermore, this type of agreement only occurs for beverages sold in non-refillable containers which is one of the reasons for the fall in market share of beverages sold in refillable containers.

2.5 RECENT MARKET DEVELOPMENTS

The Litter Act's regulations currently apply to the sale of approximately three-quarters of a billion containers annually in British Columbia. Beer containers account for a half billion or two-thirds of the total containers with soft drink containers making up the rest. The remainder of this section will examine the beer and soft drink markets in the eighties to see if the Act is remaining effective in ensuring a high return rate for beverage containers. The review of the soft drink market will be particularly important as current market forces may be causing the refund system to diverge from a deposit system as described above.

Table 2-1 presents the return rates for containers covered by the Litter Act for the period 1982 to 1986. The table shows that the return rate for all container type remains quite high, however, the return rate for beer containers is significantly higher than that achieved by soft drink containers. In addition, while the return rate for beer containers is quite constant, the return rate for soft drink containers is starting to decline.

Within the market for beer, the return rate for bottles has been excellent. The return rate for cans is lower, but has been steadily increasing. The importance of achieving an increasing return rate for cans is shown in Figure 2-2 and Table 2-2 which show the aluminum can obtaining an increasing share of total beer container sales. Bottles remain the dominant container in use, but their share of beer container sales has

TABLE 2-1
BEVERAGE CONTAINER RETURN RATES FOR BRITISH COLUMBIA, 1982-86

	PERCENT OF TOTAL SALES				
	1982	1983	1984	1985	1986
<u>BEER CONTAINERS¹</u>					
BOTTLES	97	97	99	99	96
CANS	60	64	69	73	73
ALL BEER CONTAINERS	95	94	94	94	91
<u>SOFT-DRINK CONTAINERS²</u>					
REFILLABLE BOTTLE	91	102	106	104	93*
NON-REFILLABLE BOTTLE	58	66	65	66	59*
PLASTIC BOTTLE	78	87	81	59	78*
CANS	36	44	53	36	29*
ALL SOFT-DRINK CONTAINERS	64	71	72	60	50*
<u>ALL CONTAINER TYPES</u>	87	88	88	84	80

Source: ¹ Liquor Distribution Branch and Pacific Brewers Distributors Ltd.

² British Columbia Soft Drink Association.

* Incomplete data, see text.

FIGURE 2-2

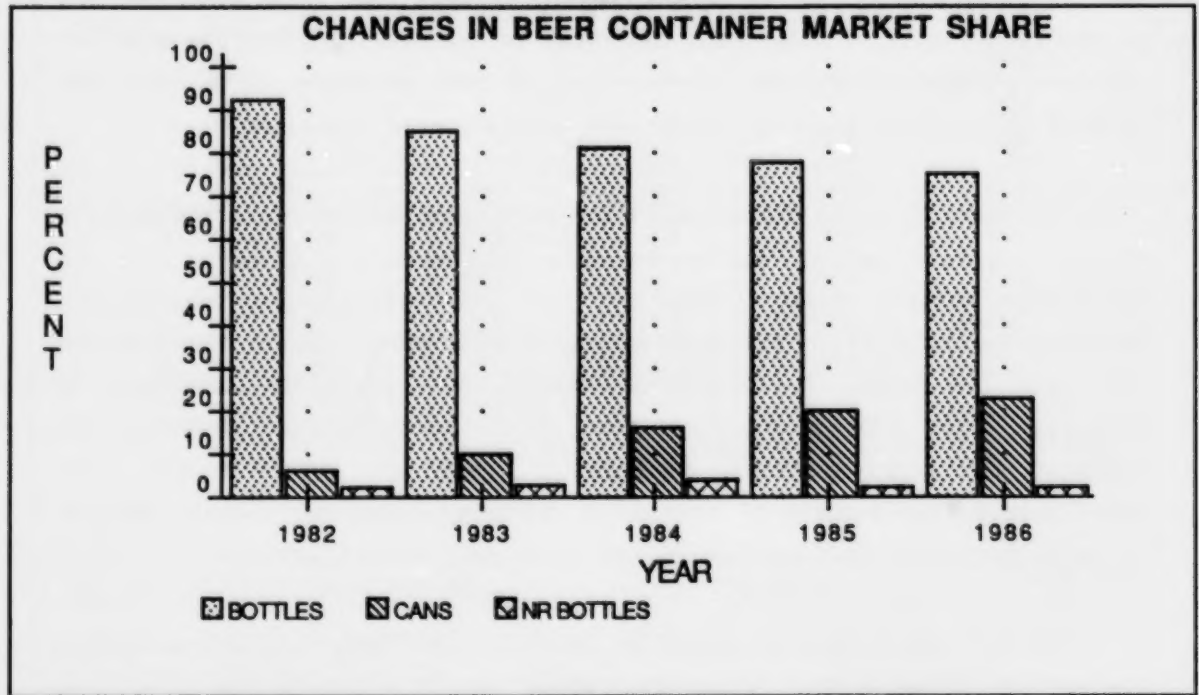


TABLE 2-2

CHANGES IN BEER CONTAINER MARKET SHARE, 1982-1986*

(Thousands of Containers Sold)

CONTAINER TYPE	1982	1983	1984	1985	1986
Refillable Bottles	525,080	460,920	436,950	411,086	393,127
Cans	36,340	55,610	86,920	106,308	118,714
Non-Refillable Bottles	12,460	23,760	15,880	10,741	12,444
TOTAL	573,870	540,290	539,750	528,136	524,285

*Includes cider and cooler sales

Source: Liquor Distribution Branch

declined from 91% to 75% while cans have increased from 6% to 23%. As long as the return rate for beer cans continues to increase commensurate with any further increase in the can market share of beer container sales, then the overall return rate for beer containers should remain unchanged.

The story is quite different in the soft drink market where the overall return rate is dropping. Within the soft drink market, the return rate for refillable bottles remains excellent and the return rate for plastic bottles, mainly 2 litre PET containers, is also good. It is the aluminum can which is obtaining the lowest return rate and which continues to decline. This problem is compounded by the aluminum can becoming the dominant soft drink container as shown in Figure 2-3 and Table 2-3. The refillable bottle's share of soft drink container sales has almost been cut in half while cans have now become the major soft drink container.

The soft drink data presented in Table 2-1 and Table 2-3 is provided by the British Columbia Soft Drink Association and is a compilation of returns from the Association's members. However, not all bottlers in British Columbia are members of the BCSDA and thus the data presented is incomplete. Nevertheless, if the soft drink market is a competitive market, the results should be representative of the other bottlers also.

In 1985 supermarkets and major retailers started to assume responsibility for the disposal of non-fillable soft-drink containers returned to them by consumers. Under this arrangement the bottlers do not collect a deposit for the non-fillable container from the retailer. This has caused the current soft-drink refund system to diverge from the manner in which the deposit system works. The return rates reported in Table 2-1 do not include the returns from these retailers and is one reason for the apparent sharp decline in soft-drink container return rates reported after 1984. The Retail Council of Canada reports that the return rate for soft-drink cans sold by major food retailers in the Lower Mainland area was 49.5% during 1986.

FIGURE 2-3

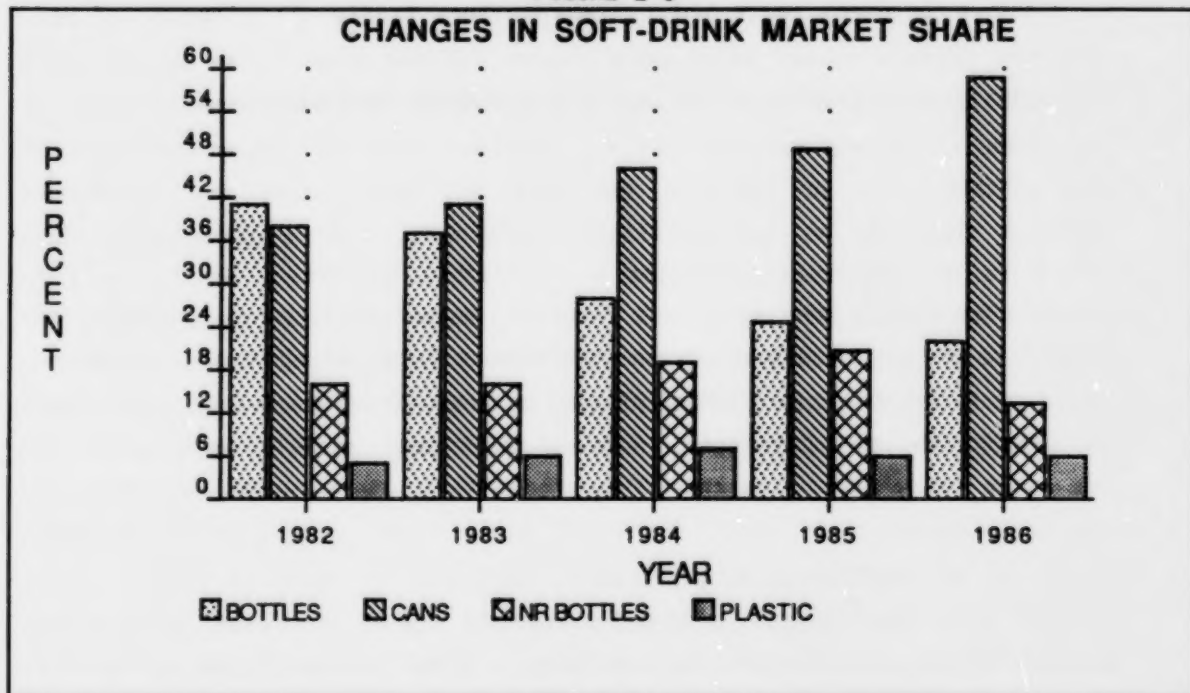


TABLE 2-3

CHANGES IN SOFT DRINK CONTAINER MARKET SHARE, 1982-1986
(Percent of Total Containers)

CONTAINER TYPE	1982	1983	1984	1985	1986
Refillable Bottles	41	37	28	25	22
Cans	38	41	46	48	59
Non-Refillable Bottles	16	16	19	21	13
Plastic Bottles	5	6	7	6	6
TOTAL	100	100	100	100	100

Source: British Columbia Soft Drink Association

The arrangement under which the retailers handle the disposal of non-refillable containers may be a major reason for the drop in the market share of refillable bottles shown in Table 2-3. While retailers must arrange for the disposal of the non-refillable containers they no longer have to sort the containers. In addition the retailers now retain any unredeemed consumer deposits on non-refillable containers. As a consequence many retailers do not stock beverages in refillable containers particularly in the smaller single serving sizes. However, major retailers do recognize the intrinsic value of aluminum cans available from salvage and, therefore, third party recyclers are often engaged to process and market the containers for their revenue potential. In that respect return rates, and the diversion of container wastes from landfills, would be higher than the tables indicate.

In both the beer and soft-drink markets the return rates for cans was below that achieved by refillable bottles. Three reasons may be advanced to account for this; one psychological, one monetary and one physical. First people may view the bottle, because it is heavier and more substantial, as being more important to return. Second because the deposit on cans is only half that of a single serving bottle there is less of a monetary incentive to return cans. Third, because cans are sold in plastic holding rings rather than in 6 pack or 12 pack cardboard containers, it is more inconvenient for consumers to store the empty cans which are instead discarded. Whatever the reason for the lower return rate for cans methods of increasing the return rate should be considered particularly given the increasing market share experienced by cans.

SECTION THREE

LITTER AND BEVERAGE CONTAINER LEGISLATION IN OTHER JURISDICTIONS

3.1 INTRODUCTION

British Columbia's Litter Act was the first mandatory refund system introduced into North America preceding Oregon's famous Bottle Bill which was introduced in July, 1971. British Columbia's approach, however, is by no means the only approach that has been adopted to control litter and beverage containers. A wide variety of approaches from refund systems to deposit systems to general litter taxes to litter clean-up programs have been adopted by other jurisdictions. It would be instructive to review the approaches used by other jurisdictions for comparison with British Columbia's approach. In this section the approach used by other Canadian Provinces will first be reviewed followed by those used in selected U.S. States and then by various other countries.

3.2 OTHER CANADIAN PROVINCES

ALBERTA

In Alberta the problem of litter control has been addressed by two acts; the Litter Act and the Beverage Container Act. The Alberta Litter Act, which was implemented in 1972, prohibits littering and contains provisions for ordering the clean-up of litter. The Beverage Container Act was passed in 1971, primarily as a litter control measure. Beverages originally covered by the Act included soft-drinks, fruit and vegetable drinks sold in metal convenience cans, liquor, wine, and imported beer. Domestic beer sold in "universal" containers, i.e. containers which can be used by more than one brand manufacturer, are exempt from the Act. However, the return of domestic beer containers is handled by a deposit system run by the Alberta Brewer's agents. In 1988 the Act was amended to include under the deposit system mineral and flavoured water, fruit drinks, fruit and

vegetable juices, tea and non-alcoholic beer in ready to serve containers. The Act now requires a minimum deposit of between 5¢ and 20¢ depending on the size of the container.

As opposed to British Columbia's refund system, Alberta's system is a deposit system. A unique feature of Alberta's system is that it is also a depot system. Under the depot system consumers may return refillable containers to a retailer who sells that kind of container however non-refillable containers must be returned to a system of government licenced depots. The depots will also accept refillable containers. The depot system is funded by a handling charge of 2¢ to 3¢ per container paid by the manufacturers. A handling charge of 1 1/2¢ per container is also paid by the manufacturers to retailers returning refillable containers. The manufacturers are also responsible for the collection of the empty containers from depots and retailers.

The number of licenced depots operating in Alberta has risen from 140 in 1973 to 204 in 1986. The average return rate for all containers is reported to be 78%. The return rate by container type has ranged from 80-90% for wine and liquor containers, 45-54% for soft drink cans, and 88-90% for refillable bottles (Alberta, 1976-1981).

SASKATCHEWAN

Saskatchewan's approach to litter and beverage container control is legislated in the Litter Control Act of 1973. The Act prohibits the "abandonment of waste" and implements a deposit system for beer and soft-drink containers. As in British Columbia the containers are returned back through the retailers. The deposit level is 5¢ for containers of 16 fluid ounces or less and 10¢ for containers greater than 16 fluid ounces. A unique feature of the Act is that beverages can be sold only in containers "approved" by the Minister. Under this provision the use of non-refillable containers has been virtually banned until May 1988. Only in the far north where transportation costs are high were non-refillables permitted.

The ban on non-refillable containers in the rest of the province went into effect on January 1, 1974. The return rates achieved by Saskatchewan's deposit system are shown in Table 3-1. Included in the table is the number of complaints received by the Saskatchewan Department of the Environment regarding refusal to comply with the deposit-refund system.

Effective May 17, 1988 the sale of beer and soft-drinks in aluminum cans was authorized. Under the new non-refillable system a deposit of 7¢ is charged for each can sold of which 5¢ is refunded to consumers returning the can and 2¢ is used as a handling charge for the collection of the cans. The cans are not returned to retailers but rather to a depot system operated by Saskatchewan Association of Rehabilitation Centres.

TABLE 3-1
SASKATCHEWAN BEVERAGE CONTAINER RETURN RATES, 1975-1981

YEAR	SOFT DRINK	BEER	COMPLAINTS
1975	86%	93%	36
1976	80%	93%	16
1977	82%	93%	32
1978	86%	91%	27
1979	86%	91%	32
1980	83%	86%	27
1981	83%	88%	22

Source: Saskatchewan Department of the Environment Annual Reports

MANITOBA

The Manitoba Clean Environment Act and its Litter Regulation contain provisions which prohibits littering. However, Manitoba has no legislation controlling beverage containers.

ONTARIO

In Ontario the Environmental Protection Act has provisions for litter and beverage container control. The Act prohibits littering and makes provision for grants "to assist in the provision of receptacles to receive litter ...". The Act also allows the Lieutenant Governor in Council to make regulations regarding:

1. the definition of any container or beverage which would be subject to the regulation;
2. requiring payment of deposits and refunds for beverage containers;
3. prohibiting the sale of any class of container;
4. regulating the stocking, display and sale of beverages by container class; and,
5. the labelling of beverage containers.

The regulation, which was passed in December of 1985 after several years in preparation, applies to soft-drinks containers only. Beer containers have been exempted because the brewers have voluntarily imposed deposits. Under the regulation refillable and non-refillable containers are treated quite differently. Refillable containers are defined in five standard sizes which must be labelled as refundable and carry minimum deposits ranging from 15¢ to 40¢ depending on container size. Consumers may return refillable containers to any retailer who sells that brand and kind of container. In off-premise advertising of soft-drinks the regulation requires that equal emphasis be given to refillables and non-refillables. In addition, brand owners are required to maintain a refillable sales share of at least 40% although phased reduction to 30% are allowable if in the

previous nine months a recycling rate of 60% has been achieved for non-refillable containers. Brand owners are required to submit monthly container sales reports. The minimum market share requirements for refillables has proven to be difficult to maintain. The Ontario Ministry of Environment laid 107 charges during 1987 for violations of these requirements. Non-refillables have been excluded from the regulations provided that they reach a recycling rate of 50% by November 1988.

The rationale behind this dual approach to beverage containers is that the non-refillable containers, particularly aluminum containers, have sufficient economic value as a recyclable material to finance an alternative collection method namely household curbside collection. However, failure to meet the required recycling rate would render the non-refillables either illegal or subject to a deposit similar to refillable containers. Interim results from the Ontario Ministry of Environment give the estimated return rate for non-refillable containers of between 10-20%.

NEW BRUNSWICK

The New Brunswick Beverage Containers Act covers only carbonated soft-drinks with beer and other non-carbonated beverages being excluded from its provisions. The Act requires deposits of between 10¢ and 40¢, depending on the size of the container, for all refillable containers only. No deposits are required for non-refillable containers. However, every retailer "who sells beverages in non-refillable containers shall also offer for sale beverages of the same brand and flavour in refillable containers." Retailers are also required to "prominently display the cash deposit level of the (refillable) container in all advertising and merchandising where prices are shown." As in British Columbia the retailers are not required to accept for refund more than 24 containers per person per day. In addition metal containers with detachable openings cannot be sold.

A recently released discussion paper on New Brunswick's beverage container legislation (New Brunswick, 1988) concluded that the existing Beverage Container Act was ineffective. The Act's requirements that

refillable containers be made available to consumers had proven difficult to enforce and many retailers were disregarding them. The main purpose of the Act was to reduce litter, however, the results of a roadside litter survey showed that non-refillable containers, which do not carry a deposit, accounted for 35.8% by weight of roadside litter. The major conclusions of the discussion paper were that the deposit system be extended to cover all small carbonated beverage containers (500 ml or less) and that beer and ale be sold in refillable containers. The New Brunswick Department of Municipal Affairs and Environment is now conducting a public review of the discussion paper's proposals.

PRINCE EDWARD ISLAND

As was the case in Saskatchewan the use of non-refillable containers for beer and carbonated soft-drinks has been banned under the provisions of the Environmental Protection Act and its accompanying Beverage Containers Regulation. For soft-drinks a refund of 17¢ for containers of 500 ml or less, 34¢ for containers of more than 500 ml but less than 1,000 ml and 70¢ for containers of 1,000 ml or greater is payable to consumers returning containers to the retailer. A further handling charge of 3¢, 6¢ and 10¢ for the small, medium and large containers respectively is paid by manufacturers to retailers for each container returned.

NOVA SCOTIA

The Nova Scotia Beverage Containers Act is very similar to the legislation adopted by New Brunswick. The Act only regulates carbonated soft-drink containers with beer and non-carbonated soft-drinks being exempted. In addition, deposits of between 10¢ and 40¢ are required only on refillable containers. As in Ontario and New Brunswick the Act attempts to ensure the market share of refillable containers by mandating that beverages in refillable containers be sold along side the same beverages in non-refillable containers. The Act's regulations require that retailers "shall not display such beverages in non-refillable containers unless the same brand, flavour and size in refillable containers are given at least equal

prominence and at least equal retail space within the same section of product display." As in British Columbia metal containers cannot be sold with a detachable opening.

NEWFOUNDLAND

In Newfoundland, the Waste Material (Disposal) Act prohibits littering, however, there is no legislation which controls beverage containers.

SUMMARY

Provincial beverage container legislation in Canada is summarized in Table 3-2.

TABLE 3-2
A SUMMARY OF PROVINCIAL BEVERAGE CONTAINER LEGISLATION

REQUIREMENTS	B.C.	ALTA.	SASK.	MAN.	ONT.	N.B.	P.E.I.	N.S.	NFLD.
Deposit on Small Size Containers	5¢	5¢	5¢	0	15¢	10¢	17¢	10¢	0
Deposit on Medium Size Containers	10¢	5¢	10¢	0	30¢	20¢	34¢	20¢	0
Deposit on Large Size Containers	30¢	20¢	N/A	0	40¢	40¢	70¢	40¢	0
Ban on Non-Refillable Containers	N	N	N	N	N	N	Y	N	N
Deposits on Refillable Containers Only	N	N	N	N	Y	Y	N	Y	N
Deposit or Refund System	R	D	R	N/A	D	D	D	D	NA
Liquor and Wine Containers Included	N	Y	N	N	N	N	N	N	N
Handling Charges for Retailers	N	Y	N	N	N	N	Y	N	N
Ban on Detachable Openings on Cans	Y	Y	N/A			Y	N/A	Y	N
Minimum Retail Space Requirements	N	N	N	N	N	Y	N	Y	N
Refillable Market Share Requirement	N	N	N	N	Y	N	N	N	N

Y - Yes

N - No

R - Refund System

D - Deposit System

3.3 U.S. STATES

Four states have been chosen to represent the diversity of methods adopted in the United States to control litter and beverage containers. They are Oregon, the first state to introduce mandatory deposits, Washington, the first state to implement a litter tax, New York, and California.

OREGON

On October 1, 1972, the provisions of Oregon's Mandatory Deposit Act came into effect and with it, Oregon became the first U.S. state to implement mandatory deposits. The Act is very similar to British Columbia's Litter Act in that it implements a consumer refund system with the containers being returned to the retailers. The Act requires a minimum refund be paid to consumers returning beverage containers to retailers of 2¢ for each "certified" container of beer or carbonated soft drink, and 5¢ for all other beverage containers. A certified container is defined as containers that are used by and will be accepted for re-use by more than one bottler or brewer. As in British Columbia, the Act bans metal containers with "easy-opening" detachable tabs.

The purpose of the Act was to control litter, particularly the beverage container portion of litter. A study had shown that beverage containers, on an item count basis, represented 19.1% of total litter with metal cans representing 71.3% of beverage container litter (Bingham and Mulligan, 1972). However, beverage containers contributed an even larger portion of total litter when measured on a volume basis. A survey conducted by the State of Oregon showed beverage containers contributed 62% of the volume of litter (Claussen, 1972).

The impact of Oregon's Bottle Bill was immediate and substantial. As shown in Table 3-3, the market share of beer in returnable bottles more than tripled while the market share of soft drinks in returnable bottles almost doubled. At the same time, the return rate of containers shown in Table 3-4 increased resulting in considerable savings in materials. Most importantly,

TABLE 3-3
CHANGES IN OREGON'S CONTAINER MARKET SHARE

(% of Total Containers by Beverage)

CONTAINER AND BEVERAGE TYPE	12 MONTHS PRIOR TO BILL IMPLEMENTATION	12 MONTHS AFTER BILL IMPLEMENTATION
Returnable Bottles		
Beer	31	96
Soft Drinks	53	88
Cans		
Beer	40	3
Soft Drinks	40	12

Source: Peaker, 1975

TABLE 3-4
CHANGES IN OREGON'S CONTAINER RETURN RATE

(% of Total Container Type Returned)

CONTAINER AND BEVERAGE TYPE	12 MONTHS PRIOR TO BILL IMPLEMENTATION	12 MONTHS AFTER BILL IMPLEMENTATION
Non-Certified Containers		
Beer	75	90
Soft Drinks	80	92
Certified Containers		
Beer	75	95

Source: Peaker, 1975

beverage container litter dropped sharply. The number of beverage containers littered per mile of road per month is reported to have decreased from 127 to 43 (Clausen, 1972).

A study done for the Oregon State Legislature found that beverage container litter declined by 66% in the year following implementation of the Act, while another study by the Oregon Environmental Council estimated that beverage container litter dropped by 72% in the first year and by 83% during the second year (Applied Decision Systems and Decision Making Information Inc., 1974 and Waggoner, 1974 respectively). A side benefit of the Act was that household solid wastes were estimated to have decreased by 4-5% by weight due to the switch to returnable containers. A study by Grudger and Bailes (1974) estimated, as shown in Table 3-5, that the Bottle Bill reduced the number of beverage containers entering Oregon's waste stream by 385 million.

TABLE 3-5
BEVERAGE CONTAINERS PER YEAR IN OREGON'S SOLID WASTE

(Millions of Containers)

CONTAINER TYPE	PRE-BOTTLE BILL	POST-BOTTLE BILL	REDUCTION
Bottles	174	40	134
Cans	263	12	251
TOTAL	437	52	385

Source: Gudger and Bailes, 1974, p. 67.

WASHINGTON

Washington State adopted a very different approach to litter control with the passage in 1971 of the Model Litter Control Act. The Act outlaws littering and contains provisions for littering penalties, the provision of roadside disposal containers and the distribution of litter bags to licensed vehicles. The most unique feature of the Act is, however, the imposition of a litter tax on manufacturers, wholesalers and retailers "whose products, including the packages, wrapping and containers thereof, are reasonably related to the litter problem" (Section 70.93.130 of the Act). Products included under the tax are:

1. Food for human or pet consumption.
2. Groceries.
3. Cigarettes and tobacco products.
4. Soft drinks and carbonated waters.
5. Beer and other malt beverages.
6. Wine.
7. Newspaper and magazines.
8. Household paper and paper products.
9. Glass containers.
10. Metal containers.
11. Plastic or fibre containers made of synthetic material.
12. Cleaning agents and toiletries.
13. Non-drug drugstore sundry products.

The tax imposed is 0.015 of one percent of the value of the products. The funds collected by the tax are used to fund litter control, recycling and public education programs throughout the state.

NEW YORK

With the passage in 1983 of the Returnable Container Law, New York State became the ninth state to pass beverage containers deposit legislation. The law places a 5¢ deposit on beer and carbonated soft-drink

containers. Consumers can redeem their deposits by returning container back to the retailers. Retailers also receive a 1 1/2¢ handling fee for each container returned to bottlers. The effectiveness of the Returnable Container Law in increasing the return and recycling of beverage containers is shown in Table 3-6. The table shows dramatic increases in the recycling rate for all container materials. The state estimates that the deposit system has led to a 3-5% reduction in total solid waste tonnage (New York, 1987). The state's 1987 solid waste management plan calls for amendments to the law which would see the deposit on 32 and 64 ounce containers to be raised to 10¢, for wine and liquor containers to also carry deposits, and for the retailers' handling fee to be raised to 2¢ per container.

TABLE 3-6
CONTAINER RECYCLING RATE UNDER THE NEW YORK STATE RETURNABLE CONTAINER LAW

CONTAINER MATERIAL	PRE-LAW RECYCLING RATE	RECYCLING RATE 1984	RECYCLING RATE 1986
All Cans	15%	82%	84%
Glass	3%	77%	80%
Plastic	1%	33%	50%

Source: New York State, 1987.

CALIFORNIA

After a twenty-year struggle with the beverage container and litter issue, California has implemented a unique form of a beverage container deposit system. The California Beverage Container Recycling and Litter Reduction Act's provisions, which came into effect on October 1, 1987, establishes a deposit system where consumers must redeem their deposits at

"redemption centers" (depots) rather than at retailers. Redemption centers are required to be within a half mile of major retailers who are responsible for their creation if a private recycler fails to do so. Under the deposit system beverage wholesalers must pay a charge of 1¢ per container to the Department of Conservation, a charge which is, of course, passed on to the consumer. When the consumer returns the container to the redemption center, he receives the 1¢ deposit refund plus a share of unredeemed deposits plus the salvage value of the container from the redemption center operator. The redemption center operator in turn receives the 1¢ deposit plus the consumers share of the unredeemed deposits from auditors from the Department of Conservation. The distribution of unredeemed deposits held by the Department of Conservation is 65% to consumer redemption bonuses, 10% to litter abatement programs, 10% to recycling education and promotion programs, 10% to fund areas with special market conditions such as rural areas, and 5% to fund program administration.

The Act sets a target redemption rate for each container type of 65%. The failure of a container type to reach the 65% redemption rate by 1990 would see the 1¢ deposit increased to 2¢. The deposit would be increased further to 3¢ if the 65% redemption rate still is not met by 1992.

The Act also empowers the Department of Conservation to impose additional levies on beverage manufacturers if the scrap value of the returned containers does not cover the redemption centers' processing costs. The Department will determine the need for these levies by audit surveys of redemption centers undertaken every six months. It would be fair to say that in the California deposit system, government has a far bigger role in the operation of the system than in any other jurisdiction in North America. In order to administer the Act, the Department of Conservation has been allocated 100 full-time staff positions.

OTHER STATES

Seven other U.S. states have adopted mandatory deposits; Massachusetts, Connecticut, Vermont, Maine, Iowa, Delaware, and Michigan. The deposits are typically 5¢ or 10¢ and most have also banned pull tab cans. Maine has also

banned the use of plastic ring holders for cans. On the other hand, Washington State style anti-litter programs have been adopted by Kentucky, Hawaii, Alaska, Colorado, Virginia, and Nebraska. Connecticut, a deposit state, has also implemented a Washington State style litter tax on the non-beverage container items found in the litter stream. Rhode Island has imposed a tax of 5¢ per case of soft drinks or beer distributed in the state with the proceeds being used to fund recycling programs.

3.4 OTHER COUNTRIES

NORWAY

In 1974, Norway introduced a 30% tax on non-returnable beverage containers, the purpose of which was to remove the metal can from the beverage container market. It is reported that the sale of beer in cans fell from 12 million in 1973 to only 1.4 million in 1975 (OECD, 1978, p. 113). Norway has also made compulsory the standardization of beer and soft drink container sizes into 350 ml, 700 ml, and 1 litre sizes. Voluntary agreement among brewers on the colour, shape, and weight of containers has resulted in 97% of beer sold in containers during 1975 being sold in standardized bottles (OECD, 1978, p. 119). The return rate for beer and soft drink containers in Norway has been reported at 99%.

SECTION FOUR

CRITICISMS OF THE LITTER ACT

4.1 INTRODUCTION

The Litter Act has not been without its detractors. The soft drink bottling industry and retailers have, in particular, objected to the Act believing that their product has been unfairly singled out for special treatment while other products which enter the litter stream are left unaffected. The purpose of this section is to review and assess the criticisms of the Act. First, criticisms of deposit systems in general will be reviewed followed by specific criticisms of the Litter Act refund system.

In assessing the criticisms which follow, it has been necessary to use the results of litter surveys and studies from other jurisdictions, especially from the United States, rather than British Columbia results. There is an unfortunate dearth of information on the British Columbia experience, but British Columbia results will be used whenever possible.

4.2 GENERAL CRITICISMS OF MANDATORY DEPOSITS

Six basic points of criticisms have been levelled at mandatory deposit systems. Three of them are based on the role beverage containers play in the litter and waste management problems and three criticisms claim that alternative container collection systems can work as effectively as deposits. Each criticism will be reviewed in turn.

1. Beverage containers make up only a small portion of the litter problem and therefore deposits have a small effect on total litter control.

Critics frequently cite the results of roadside litter surveys conducted by Daniel Syrek of the Institute of Applied Research as evidence of the small role beverage containers, particularly soft drink containers, play in litter. Table 4-1 gives some of the results of 19 litter surveys conducted by Syrek. The results show that on an item count basis, the percentage of total litter represented by beverage containers in non-deposit states ranges from 3.3-15.9%. As these figures are for beer and soft drink containers, critics claim that soft drink containers alone represent only 5-7% of the total litter problem. See for example Stephenson (1988). As the remaining 95% of litter is unaffected by the deposits, the critics argue that a general anti-litter and clean-up program would be more effective at litter control.

It is important when looking at the results of litter studies to determine how the amount of litter is being measured. The data reported in Table 4-1 is based on item counts where every piece of litter "down to bottle cap size or 1 inch in diameter" is counted as one item (Syrek, 1986, p.41). An exception to this rule was broken glass bottles where all pieces are taken together as one item. Measuring litter on an item count basis means that all items are given equal weight and importance regardless of the items' physical size. Thus, a bottle cap is given equal weight to a chewing gum wrapper, to a cigarette package and to a beer or soft drink container. It also means that biodegradable litter is also counted the same as non-biodegradable litter. Clearly, measuring litter on an item count basis will underestimate the contribution of beverage containers to a persistent litter problem.

Better measures of total litter impacts are the total surface area covered by the litter and the total volume of the litter. Both of these measures provide a better indication of the visual impact litter has and its associated "eyesore" costs to the public. Table 4-2 presents estimates of the percent of total litter area accounted for by beverage containers from nine of the studies given in Table 4-1. These results show that beverage containers play a far greater role in the litter problem than was shown by the item counts presented earlier.

TABLE 4-1
A COMPARISON OF BEVERAGE CONTAINER LITTER RATES IN THE U.S.

STATE	YEAR OF SURVEY	% OF TOTAL LITTER ITEMS	BEVERAGE CONTAINERS PER MILE
<u>Zero to One Year of Litter Control Program</u>			
Hawaii	1978	12.21	694
Michigan	1978	8.13	583
Hawaii	1979	11.65	532
Alameda Co.	1979	3.56	323
Kentucky	1979	15.85	1,763
Kentucky	1980	8.95	1,028
Nebraska	1980	9.00	437
Alaska	1981	6.77	521
California	1985	4.93	341
	AVERAGES	9.01	691
<u>Two to Five Years of Litter Control Program</u>			
Washington	1977	4.43	213
Hawaii	1981	5.83	286
Nebraska	1982	6.48	271
Alaska	1983	6.74	314
Nebraska	1985	4.96	231
	AVERAGES	5.69	263
<u>Ten to 13 Years of Litter Control Program</u>			
Washington	1982	3.89	163
Washington	1983	3.33	124
Washington	1985	3.30	178
	AVERAGES	3.51	155
<u>Beverage Deposit Legislation Only</u>			
Michigan	1979	0.63	44
Oregon	1977	2.31	111
	AVERAGES	1.47	78

Source: Syrek (1986).

TABLE 4-2
A COMPARISON OF THE PERCENT OF TOTAL ACCUMULATED LITTER AREA ATTRIBUTABLE TO
BEER AND SOFT DRINK CONTAINERS IN U.S. STATES

(% of Total Litter Area)

STATE	YEAR	PROGRAM	RURAL HIGHWAYS	URBAN STREETS	
				COMMERCIAL	RESIDENTIAL
Kentucky	1979		49.0	16.2	14.1
Michigan	1978		20.8	8.7	13.6
Michigan	1979	D	0.0	3.7	0.2
Hawaii	1978		18.7	16.3	8.4
Hawaii	1979	L	26.4	27.7	16.0
Washington	1977	L	16.7	4.6	4.9
Oregon	1977	D	8.7	1.8	1.4
Nebraska	1978		23.8	9.8	7.8
Alameda Co.	1979		10.0	6.4	3.7

D - Deposit Legislation State

L - Litter Control Program State

Source: Syrek (1978, 1979a, 1979b, 1980a, 1980b, 1986).

The works of Syrek are of course not the only litter studies which have been conducted. Table 4-3 shows the results of other studies conducted by various groups. These studies, even those based on unit counts, show beverage container litter to be a significant portion of total litter. In fact those studies based on volume measures show that beverage containers are the dominant component of the litter stream.

Conclusion: Beverage containers are a significant portion of total litter particularly when litter is measured by its surface area or its volume.

2. While effective in controlling beverage container litter deposit systems do not reduce the littering of other items.

Deposit systems are unquestionably the most effective means of controlling beverage container litter. The right hand column of Table 4-1 shows the number of beverage containers per mile found in roadside litter surveys. The reduction in Michigan's beverage container litter from 583 containers per mile before the deposit system was introduced to 44 containers per mile the year after clearly shows the effectiveness of deposits. The Table also shows the effects of general litter control programs, i.e. programs with anti-litter education and litter clean-up elements, on beverage container litter. The results indicate that general litter control programs do reduce the occurrence of beverage container litter but even after 13 years of operation in Washington they still have twice the beverage container litter rate of deposit systems.

The reason for the success of deposit systems in controlling beverage container litter is quite simple, people have a monetary incentive not to throw away the container. However, this monetary incentive is not there for non-beverage container litter items. Thus, the deposit system will only reduce the non-beverage container litter if the deposit system can influence or modify people's behavior by the example set by beverage containers.

TABLE 4-3

BEVERAGE CONTAINER LITTER AS A PERCENT OF TOTAL LITTER FOUND IN OTHER STUDIES

LITTER STUDY	YEAR	MEASUREMENT BASE	%	SOURCE
United Kingdom		Unit Count	7	Glass, 1973
Australia		Unit Count	8.5-12	Australia, 1974
Sweden		Unit Count	12	Lidgren, 1976
Sweden		Unit Count	20	Lidgren, 1976
Ontario		Unit Count	9	Ontario, 1974
Ontario		Unit Count	33	Ontario, 1974
P.E.I.	1974	Unit Count	31	Env. Assoc., 1974
Saskatchewan	1973	Unit Count	33.9-71.6	Saskatchewan, 1976
Saskatchewan	1974	Unit Count	36.1-66.2	Saskatchewan, 1976
Saskatchewan	1975	Unit Count	34.4-61.5	Saskatchewan, 1976
Ohio	1981	Unit Count	21.8-34.3	Systech, 1981
United States	1969	Unit Count	32	U.S. EPA, 1975
United States	1969	Unit Count	20	U.S. EPA, 1975
United States		Volume	54-70	Quarles, 1974
Oregon	1971	Volume	43	Peaker, 1975
Vermont		Volume	34	Vermont, 1973
Vermont		Volume	57	Vermont, 1973
Ontario		Weight	37	Ontario, 1974
New Brunswick	1981	Weight	39.2	New Brunswick, 1988

Waggoner (1974) in his study of the effects of Oregon's Bottle Bill found that two years after deposits were introduced that beverage container litter was down by 83% on an item count basis and that all litter was down by 39% on an item count basis and by 47% on a volume basis. From these results he concluded:

"It therefore appears that the Bottle Bill has sensitized Oregonians to the problem posed by all kinds of litter."
(Waggoner, 1974).

Another example of the effect of a deposit system on litter comes from Michigan which implemented their deposit system on December 1, 1978. The Michigan Department of Transportation conducted before and after litter surveys of state highways and found that beverage container litter was down by 79.5%, all litter was down by 39.8% and non-beverage container litter was down by 33.7% (Michigan Department of Transportation, 1979). However, Syrek (1980b) in a separate before and after study of Michigan litter found that non-beverage container litter increased by 36.9% on an item count basis, by 42.5% on an area basis and by 19.3% on a volume basis.

Evidence of the impact of a deposit system on non-beverage container litter from other jurisdictions is also mixed. Maine reported a 77.5% increase in non-beverage container litter on an item count basis in its first year of a deposit system but this fell to only a 8.9% increase over the base year in the second year (Jacobs, 1979). Vermont on the other hand reported a 4.9% drop in non-beverage container litter, measured on a volume basis (as reported by Syrek, 1980b).

Conclusion: A deposit system is the most effective means of controlling beverage container litter. However, the evidence as to its effectiveness in controlling non-beverage container litter is inconclusive.

3. Beverage containers make up only a very small portion of the total solid waste stream therefore waste disposal policies much broader than deposit systems are needed.

True, beverage containers make up quite a small portion of the total solid wastes generated by society. However, deposit systems were introduced to control the litter problem not solid waste disposal problems. The fact that deposit legislation has helped to reduce the quantity of solid wastes generated by an estimated 3-5% in New York State (New York, 1987) and by 4-5% in Oregon (O.E.C.D., 1978) is simply a side benefit of deposit systems.

Conclusion: Deposit systems were developed to control the litter problem which is a distinct and separate problem from that of waste disposal.

4. Alternative litter control programs can control the general litter problem better than deposit systems alone can.

In a study prepared for the Continental Can Company, Syrek (1977) compared the effectiveness in controlling litter of the Washington State's Model Litter Control Act to Oregon's Bottle Bill deposit legislation. He concluded that Washington's litter control program was significantly more effective than Oregon's deposit legislation in reducing exposure to street and highway litter. He estimated that vehicle occupants' exposure to litter, on a square foot of accumulated litter per average mile driven basis, was 27% less in Washington than in Oregon. He attributed the reduced exposure to three factors:

- In Washington fewer items of fresh litter are deposited each week.
- Fallen litter is cleaned up at shorter intervals by Washington property owners.
- Non-beverage litter, of which Oregon had a higher proportion, had a larger cross section area than beverage litter which Washington had a higher proportion of.

In another litter study Syrek (1986) attempts to compare the effectiveness of litter control programs versus deposit systems across seven states. The comparison is based on the results of 19 litter surveys conducted by him. In order to make the results comparable across jurisdiction he states that "these results are corrected to the same U.S. standard levels of traffic and income..." (Syrek, 1986, p. 25). The results of his comparison are given in Table 4-4 which shows that beverage deposits jurisdictions had a lower litter rate than jurisdictions with zero to one year of litter control but that jurisdictions with two or more years of litter control programs had the lowest litter rates. However, it should be noted that of the 19 surveys used only three were done in jurisdictions which implemented beverage deposits while 14 were from jurisdictions which implemented general litter control programs. A larger sample size for the deposit legislation states would be necessary to confirm these results.

The individual survey results for the states which implemented deposit legislation or litter control programs used by Syrek in his analysis are given in Table 4-5. On an accumulated litter basis three of the litter control states, which had before and after litter surveys, showed large initial drops in the litter rate while the fourth, Kentucky, had an increase. The results for Nebraska and Hawaii in later follow-up surveys showed an increase in the litter rate although not to the pre-litter control rate. Interestingly the 1977 results for Washington and Oregon, the only comparable years available, showed virtually identical litter rates on both an accumulated and fresh litter basis.

Conclusion: The evidence that general litter control programs are more effective than deposit legislation in controlling all litter items is by no means conclusive.

TABLE 4-4
COMPARISON OF LITTER CONTROL PROGRAMS TO DEPOSIT LEGISLATION

PROGRAM	SAMPLE SIZE	ACCUMULATED LITTER (Items/Mile)	FRESH LITTER (Items/Mile-Week)
0-1 Years of Litter Control	9	7620	780.3
Beverage Deposits Only	2	5855	673.0
2-5 Years of Litter Control	5	4641	548.6
10-13 Years of Litter Control	3	4428	393.6

Source: Syrek, 1986.

TABLE 4-5
COMPARISON OF ACCUMULATED AND FRESH LITTER RATES IN U.S. STATES

STATE (Program)	YEAR OF SURVEY	YEAR OF PROGRAM	ACCUMULATED LITTER (Items/Mile)	FRESH LITTER (Items/Mile/Week)
Oregon (Deposit)	1977	6	4802	551.8
Michigan (Deposit)	1978	B	7175	785.8
	1979	1	6907	794.2
Washington (Litter Control)	1977	5	4801	547.0
	1982	10	4180	415.7
	1983	11	3726	350.5
	1985	13	5379	414.6
Nebraska (Litter Control)	1980	B	4858	554.8
	1982	2	4177	629.0
	1985	5	4665	328.4
Hawaii (Litter Control)	1978	B	5681	1142.4
	1979	1	4565	732.5
	1981	3	4907	629.5
Alaska (Litter Control)	1981	B	7698	498.6
	1983	1	4653	530.2
Kentucky (Litter Control)	1979	B	11122	1058.9
	1980	1	11487	857.2

Source: Syrek, 1986.

B - the year before the program started.

5. Beverage containers can be collected and recycled more effectively by alternative collection means, such as household curbside collection.

Critics of deposit systems frequently cite the high return rate for aluminum beverage containers in some U.S. states without deposit legislation as evidence that deposit systems are unnecessary. It is true that some non-deposit states do report high return rates for aluminum containers of 70-80% but this is by no means the norm. Table 4-6 reports the return rates for aluminum containers during 1983 by state. A frequency distribution of the return rates is given in Table 4-7. The return rate for non-deposit states varied from 10% to 80% with an average of only 43.5%. Only 17 of the 42 non-deposit jurisdictions reported return rates at or above 50%. On the other hand states with deposits, excluding New York, reported a return rate of 70% to 90% with an average return rate of 83%. New York's return rate for 1983 is an anomaly because its deposit system did not come into full force until September of that year. The following year its can return rate rose to 82% and to 84% in 1985 (New York, 1987). It is interesting that California, a non-deposit state in 1983 with one of the highest aluminum container return rates, still decided in 1987 to adopt a modified mandatory deposit system.

A review of the City of Newark, New Jersey's experience with mandatory household curbside collection program, by two members of the City's engineering department, stated that:

"Newark's curbside collection and buy-back program, when fully implemented, is expected to recover only 30 percent of the available cans and bottles at best" (Sudol and Zack, 1988).

After comparing the New Jersey recycling rates for beverage containers to those achieved under New York State's deposit system the authors conclude that:

"New Jersey's recycling program is a substantial failure as far as the collection of glass, aluminum and plastic containers".

TABLE 4-6
ALUMINUM CONTAINER RETURN RATES BY U.S. STATE, 1983

NON-DEPOSIT STATES	PERCENT RECYCLED	DEPOSIT STATES	PERCENT RECYCLED
Alaska	10	New York	40
Hawaii	10	Massachusetts	70
Pennsylvania	15	Iowa	80
West Virginia	15	Connecticut	85
New Hampshire	20	Oregon	85
New Jersey	20	Vermont	85
Rhode Island	20	Maine	86
District of Columbia	25	Michigan	90
Montana	25		
North Dakota	30		
Ohio	30		
South Dakota	30		
Utah	30		
Wyoming	30		
Idaho	35		
Indiana	35		
Louisiana	35		
Maryland	35		
Mississippi	35		
Missouri	35		
Illinois	40		
Nebraska	40		
Minnesota	45		
Nevada	45		
Virginia	45		
Kentucky	50		
Oklahoma	50		
South Carolina	50		
Tennessee	50		
Alabama	55		
Kansas	60		
Florida	65		
New Mexico	65		
North Carolina	65		
Washington	65		
Arizona	70		
California	70		
Texas	70		
Arkansas	75		
Delaware	75		
Georgia	75		
Colorado	80		

Source: Resource Recycling.

TABLE 4-7
STATE ALUMINUM CONTAINER RECYCLING RATE
FREQUENCY DISTRIBUTION, 1983¹

PERCENT RECYCLED	NON-DEPOSIT STATES	DEPOSIT STATES
10	2	
15	2	
20	3	
25	2	
30	5	
35	6	
40	2	1 ²
45	3	
50	4	
55	1	
60	1	
65	4	
70	3	1
75	3	
80	1	1
85		4
90		1
TOTAL	42	8

Source: Resource Recycling.

¹ Includes The District of Columbia.

² Deposits introduced in New York in September 1983 recycling rate rose to 82% the following year.

They recommended that:

"the New Jersey Legislature needs to enact beverage container legislation that, combined with mandatory recycling, will maximize the number of beverage containers collected, reduce the percentage of solid waste which is landfilled, decrease litter and energy consumption, and create new employment opportunities".

The Province of Ontario is also promoting household multi-material curbside collection of recyclables. The Ontario soft-drink industry is providing considerable financial assistance to these recycling operations in exchange for the Province's agreement not to implement a deposit system on non-refillable containers. While these programs are successful in diverting large quantities of recyclable materials from the waste stream they have not proven to be very successful at recovering beverage containers. Staff from the Ontario Ministry of Environment stated that only between 10% - 20% of non-refillable soft-drink containers are being recovered by the recycling programs.

Conclusion: No alternative collection system has been shown to be more effective at collecting and recycling beverage containers than has the deposit system. In addition deposit systems can be used in conjunction with household curbside collection and other recycling programs to effectively reduce both the litter control and solid waste disposal problems.

6. If deposits were removed the value of the aluminum cans collected by household curbside recycling programs could help subsidize the recycling of household wastes.

Aluminum beverage containers are the highest valued material in the municipal solid waste stream that is available for recycling. The current market price for used aluminum beverage containers has recently been as high as \$1,800/tonne which compares to \$80/tonne for old newspaper, \$45/tonne for glass, or \$10/tonne for ferrous metals. If curbside collection programs, such as those operating in Ontario, can divert large quantities of the containers from the waste stream then under current market prices recycling programs could receive a large increase in revenue.

In order for this prediction of increased revenues to come true three things would have to occur. First, the market value of aluminum must remain high. Second, the recycling program must be able to collect large quantities of aluminum containers. Third, a large portion of the beverage containers must continue to be made of aluminum and not switched to an alternative material such as steel, glass, or plastic.

In recent years the market price of scrap aluminum from used beverage containers has more than doubled from approximately \$0.30/pound in 1985 to \$0.71/pound in 1988. The prices given are set by the major north american producers of aluminum and are quoted in U.S. dollars. As such the prices paid to Canadian suppliers fluctuates daily with the changes in the Canada/U.S. exchange rate. Using the current high prices for aluminum as a basis to subsidize the collection of other recyclable materials from households may, in the long-run, prove unwise for if the price of aluminum falls then the entire recycling operation could be jeopardized. A more sound financial operation would see each material collected covering its share of the costs of collection and processing.

Economic theory suggests that when the price of a material increases the users of that material will seek ways to reduce its use or to substitute other materials in its place. Bottlers and brewers are no different in this regard. Faced with increasing aluminum prices they could seek an alternative container material such as plastic or return to tin-plated steel. Indeed reports from the U.S. say that some major brewers are considering such a move while a local brewer in Pittsburg has already made the switch. In Ontario Pepsi Cola continues to use tin-plated steel cans. In order for aluminum cans to subsidize household recycling some guarantee would be required that the beverage cans would not be switched to another material.

Conclusion: The long-run viability of recycling operations would best be served if each material collected covered its share of collection and processing costs and not by relying on one material to subsidize the other materials.

4.3 CRITICISMS OF THE LITTER ACT REFUND SYSTEM

Aside from the general criticisms of deposit systems listed above there are a number of specific criticisms of British Columbia's refund system. Most of these criticisms stem out of the recent divergence of the refund system from the manner in which a deposit system works in the soft-drink market as described in Section 2.4 and 2.5. Soft-drink bottlers complain that the Act no longer provides an even playing field for the soft-drink industry.

1. Bottlers who sell refillables or who attempt to abide by the intent of the Litter Act by charging a deposit are at a competitive disadvantage to firms who do not.

The review of recent market developments for soft-drinks conducted in Section 2.5 supports this contention. The market share for refillable soft-drink containers is falling and the practice by bottlers of not collecting deposits for non-refillable containers is increasing. If retailers have a preference for handling non-refillables for which they are not charged a deposit then they could simply refuse to stock refillables.

Conclusion: Market forces in the soft-drink industry appear to be placing the sale of soft-drinks in refillable containers at a disadvantage.

2. The manner in which the current refund system is operating for soft-drinks results in some retailers paying out more refunds than they collected and in handling more returned containers than they sold.

Under a deposit system it is the bottlers who control the deposits and it does not matter which retailer the container is returned to as the bottler will reimburse the retailer for all containers returned. However, under a refund system where the retailer is not charged a deposit by the bottler, then if consumers do not return the container to the same retailer from which it was purchased could cause some retailers to pay out more refunds than they collected while other retailers would have an increase in

unredeemed deposits. For example, if a consumer purchases a soft-drink from retailer A but returns the container for refund to retailer B then A benefits from the deposit he collected from the consumer while B is out by the value of the refund. It has been suggested that this situation is occurring between major food retailers and local corner convenience stores as parents are buying soft-drinks in bulk at the supermarkets but their children are redeeming the deposits at local stores.

The second part of this problem arises from the cost of handling the returned containers. If the number of containers returned to each retailer is in proportion to their individual sales then the handling costs of the returned containers is borne equitably by all retailers. However, if some retailers handle proportionally more container returns then the distribution of costs will not be equitable. Because of this possibility some jurisdictions have included the provision of handling fees for retailers returning containers to bottlers as an integral part of their deposit system.

Conclusion: The manner in which the current refund system for soft-drinks is operating may result in some retailers paying out more refunds than they have collected and in an inequitable distribution of container return handling costs amongst retailers. The first problem could be solved by implementing a mandatory deposit system while the latter problem could be addressed by a retailer handling charge.

SECTION FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

The major conclusions of this review of the British Columbia Litter Act are:

1. Beverage containers make up a significant portion of the litter stream in jurisdictions without deposit systems. The importance of the beverage container portion of the litter stream is further enhanced due to their non-biodegradability.
2. Deposit systems are the most effective means of controlling beverage container litter and of maintaining a high container return rate.
3. The current refund system for beer and cider containers is very effective in maintaining a high container return rate, thus no changes to the current system for the brewing industry are required.
4. The effectiveness of the current refund system for soft-drink containers has been seriously eroded by market forces and it is no longer operating as a deposit system.
5. The return rate for cans is significantly lower than that achieved by refillable bottles. This problem is exacerbated by the increasing market share being captured by cans.

5.2 RECOMMENDATIONS

In order to improve the effectiveness of the Litter Act the following recommendations are made:

1. A mandatory deposit system for soft-drink containers should be implemented. Such a system would return the control of container returns to the bottlers and provide an equal basis for competition amongst bottlers.
2. A soft-drink container handling fee of one cent per container returned to the bottler by retailers should be implemented to recognize the part retailers play in the return system.
3. No changes are required for the existing refund system for beer and cider containers.
4. Methods for increasing the return rates for cans, such as equalizing the deposits on single serving bottles and cans or changes to the packaging requirements for cans, should be considered.

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APPENDIX

**THE LITTER ACT
AND
LITTER ACT REGULATIONS**

LITTER ACT*[Repealed 1982-41-41, to be proclaimed]**[Amendment to be proclaimed]***CHAPTER 239***[Act administered by the Ministry of Environment]***Interpretation****1. In this Act****"class"** means the identification of a container by either

- (a) the name of the manufacturer or distributor designated on the container;
- (b) the brand or trade name of the product designated on the container; or
- (c) the particular liquid in the container;

"enforcement officer" means a peace officer and includes a conservation officer, park officer, forest officer and other persons designated or appointed by the Lieutenant Governor in Council as enforcement officers under this Act;**"kind"** means either

- (a) a refillable glass container;
- (b) a nonrefillable glass container;
- (c) a nonrefillable metal container; or
- (d) a plastic container;

"litter" means

- (a) rubbish, garbage or waste materials, including containers, packages, bottles, cans or parts of them; or
- (b) any abandoned or discarded article, product or goods manufacture; but not including wastes of the primary processes of mining, logging, sawmilling, farming or manufacturing;

"minister" includes a person designated in writing by the minister.

1970-22-2; 1972-33-1; 1974-87-25; 1978-23-173.

Sale subject to refund

2. (1) No person shall sell or offer for sale beer, ale, carbonated beverages or drinks in a glass, plastic or metal container for consumption or use off the premises on which they are sold or offered for sale unless the person undertakes to refund and does refund to the purchaser on delivery up of the container to the premises at which they are sold or offered for sale the sum of not less than 2¢ for each container or other greater amount prescribed by the Lieutenant Governor in Council.

(2) Without limiting subsection (1), a person may make arrangements with an agent or with a wholesaler or a distributor in the same locality, to provide a depot, convenient for his customers, for the acceptance of containers purchased from him and for refunds to the purchaser as required under subsection (1), and a purchaser may elect to deliver up the containers at the premises at which they are sold or offered for sale or at a depot provided under this subsection; but, in any case, the refund prescribed by subsection (1) shall be made at the place to which the containers are delivered.

(3) This section applies to a government liquor store under the *Liquor Distribution Act*.

(4) A person may refuse to accept delivery of a container or to refund the amount prescribed under subsection (1), if the container

- (a) is not of the kind and class he sells or offers for sale; or

(b) is in a flattened, damaged, dirty or rusty condition; but dents or damage to extract its contents is not damage under this subsection.

(5) A person referred to in subsection (1) who refuses, neglects or fails to give the undertaking, or to carry out the undertaking or to make the refund required under this section commits an offence and is liable to the penalties prescribed in this Act.

1970-22-3; 1972-33-2,3,4.

Littering prohibited

3. No person shall discharge, dump, discard or dispose of litter on any land or fresh water or ice thereon, except

- (a) in compliance with a permit issued under the *Pollution Control Act*;
- (b) where litter is burned in compliance with the *Forest Act*, or a bylaw, permit or licence of a municipality or village;
- (c) by burying and covering with not less than 30 cm of clean soil; or
- (d) where disposal facilities are provided, in compliance with proper and accepted methods of disposal using those facilities, and in accordance with the *Health Act* and regulations.

1970-22-4; 1972-33-5; 1977-75-13; 1977-53-1; 1978-23-166.

Discharge of sewage prohibited

4. No person shall discharge domestic sewage or waste from a trailer, camper, portable housing unit, boat or house boat into any fresh water or watercourse or ice thereon or on land, except

- (a) in compliance with a permit issued under the *Pollution Control Act*;
- (b) where disposal facilities are provided, in accordance with proper and accepted methods of disposal using those facilities, and in accordance with the *Health Act* and regulations; or
- (c) by excavating a pit on land and burying and covering the domestic sewage or waste with not less than 30 cm of clean soil.

1970-22-5; 1972-33-6; 1977-53-1.

Camping

5. (1) No person shall establish or maintain a camp on land unless
- (a) toilet and sanitary facilities are provided and properly used; or
 - (b) the person excavates and maintains and uses a pit toilet.

(2) No person shall abandon or leave a camp unless he first buries and covers the pit toilet with at least 30 cm of clean soil.

1970-22-6; 1972-33-7; 1977-53-1.

Offences and penalties

6. A person who contravenes the Act or the regulations or who refuses, omits or neglects to fulfil, observe, carry out or perform a duty, undertaking or obligation created, prescribed or imposed by them, commits an offence and is liable on conviction to a fine of not more than \$500 or to a term of imprisonment not exceeding 6 months or to both the fine and the imprisonment; and, if the offence is of a continuing nature, to a fine not exceeding \$100 for each day the offence continues.

1972-33-8.

Ticket of summons

7. (1) For the contravention of this Act or the regulations, an information may be laid and a summons issued by means of a ticket in accordance with this section instead of the procedure set out in the *Offence Act*.

(2) A ticket may be composed of any one or more of the following:

- (a) information;
- (b) summons;
- (c) enforcement officer's record;
- (d) report of conviction.

(3) The Lieutenant Governor in Council may make regulations

- (a) to prescribe the form of tickets;
- (b) to define any word or expression used in the regulations;
- (c) to authorize the use on tickets of a word or expression to designate an offence under this Act or the regulations; and
- (d) respecting a matter that the Lieutenant Governor in Council deems necessary for the use of a ticket.

(4) The use on a ticket of a word or expression authorized by this Act or the regulations shall be deemed sufficient for all purposes to describe the offence designated by that word or expression.

(5) An enforcement officer shall sign the ticket and shall indicate the offence charged on the ticket by marking or punching the box that shall be to the left of the word or expression describing the offence charged as printed on the ticket. If the word or expression describing the offence charged is not printed on the ticket he shall write it in the space that shall be provided.

(6) A ticket summons may, without the swearing of an information, be delivered by an enforcement officer or by registered mail to the person charged with an offence and the delivery of the ticket summons to the person shall be deemed to be personal service of the summons on the person.

1970-22-8; [repealed 1982-38-18, to be proclaimed].

Regulations

8. The Lieutenant Governor in Council may make regulations including regulations

- (a) for containers, the refunds on them, and their disposal under section 2;
- (b) exempting a container or sales of it from the Act and prescribing the conditions of the exemption;
- (c) for the disposal of litter and domestic sewage and waste; and
- (d) where authorized, for the construction and maintenance of litter and sewage pits.

1970-22-9; 1972-33-9.

Subject to Pollution Control Act

9. This Act is subject to the *Pollution Control Act*.

1970-22-10.

B.C. Reg. 136/70
O.C. 1750/70

Litter Act

LITTER ACT REGULATION

[Superseded by B.C. Reg. 65/85 under *Waste Management Act*,
effective when section 41 of that Act comes into force]
[includes amendments up to B. C. Reg. 492/82]

1. (1) For the purpose of this regulation, unless the context otherwise requires,

"drinks" means soft drinks, fruit drinks and reconstituted fruit drinks consisting of less than 85% of pure fruit juice and concentrates thereof;

"container" means

(a) a glass or plastic container, or

(b) a metal container of 16 fluid ounce capacity or less;

"forest ranger" means a Technical Forest Officer of Grade 1 or 3 assigned to a ranger district.

(2) Building inspectors appointed as such by the Regional District of Fraser-Fort George are hereby designated as enforcement officers under the Act.

(3) The Chief of Inspectional Services appointed by and for the City of Kelowna is hereby designated as an enforcement officer under the Act.

[am. B.C. Regs. 180/71; 220/71; 384/73, s. 2; 74/74, s. 1; 518/76; 172/80, s. 1.]

2. (1) The refund payable by a seller to a purchaser under section 2 of the Act in respect of containers of beer, ale or cider shall be not less than 2¢ in cash for each container delivered up by the purchaser to the seller and in respect of containers of carbonated beverages or drinks shall be not less than 5¢ in cash for each container of 16 fluid ounces or litre equivalent capacity or less, and not less than 10¢ in cash for each container of a capacity of more than 16 fluid ounces or litre equivalent capacity but less than 40 fluid ounces capacity, and 30¢ in cash for each glass or plastic container of 40 fluid ounces or litre equivalent capacity or more delivered up by the purchaser to the seller.

(2) Notwithstanding subsection (1), metal containers so designed and constructed that any part of the container is detachable without the aid of a can opener shall continue to be refundable for not less than 2¢.

(3) *Spent.*

(4) *Repealed.* [B.C. Reg. 163/70, s. 4.]

[am. B.C. Reg. 384/73, s. 1; am. B.C. Regs. 74/74, ss. 1, 2; 562/74, ss. 1, 2; 172/80, s. 2.]

3. (1) In this section "metal container" means a metal container of 16 fluid ounce capacity or less.

(1.1) Where a bottler, canner, processor, wholesaler or retailer

(a) purchases or leases a metal container and uses the container to bottle beer, ale, cider, a carbonated beverage or a drink, or

(b) purchases beer, ale, cider, a carbonated beverage or a drink in a metal container
on or after March 1, 1983, he shall not sell that empty or full container unless

(c) the container

(i) bears the words "return for refund" in clear, prominent letters, and

(ii) does not bear any form of words indicating that it carries no deposit, or

(d) he labels the container as required by paragraph (c) before he sells the empty or full container for consumption in the Province.

(2) Subsection (1.1) does not apply to a bottler, canner, processor, wholesaler or retailer where the bottler, canner, processor, wholesaler or retailer purchases or leases a container or purchases beer, ale, cider, a carbonated beverage or a drink in a container pursuant to an agreement entered into before March 1, 1983.

(2.1) Where a bottler, processor, wholesaler or retailer

(a) purchases or leases a glass or plastic container and uses the container to bottle beer, ale, cider, a carbonated beverage or a drink, or

(b) purchases beer, ale, cider, a carbonated beverage or a drink in a glass or plastic container

on or after December 1, 1982, he shall not sell that empty or full container unless

(c) the container

(i) bears the words "return for refund" or "money back bottle" in clear, prominent letters, and

(ii) does not bear any form of words indicating that it carries no deposit, or

(d) he labels the container as required by paragraph (c) before he sells the empty or full container for consumption in the Province.

(2.2) Subsection (2.1) does not apply

(a) to a glass bottle of beer, ale, cider, a carbonated beverage or a drink in a glass bottle where the bottle

(i) is in use before December 1, 1982, and

(ii) is labelled with a form of labelling known in the industry as "applied colour labelling" or "ACL", or

(b) to a bottler, processor, wholesaler or retailer where the purchase or lease of the container or the purchase of beer, ale, cider, a carbonated beverage or a drink in a container is pursuant to an agreement entered into before December 1, 1982.

(3) On, from and after the first day of November, 1974, no person shall sell or offer for sale for the purpose of resale any beer, ale, cider, carbonated beverages or drinks in a metal container so designed and constructed that any part of the container is detachable in opening the container without the aid of a can opener.

(4) On, from and after the first day of January, 1975, no person shall sell or offer for sale any beer, ale, cider, carbonated beverages or drinks in a metal container so designed and constructed that any part of the container is detachable without the use of a can opener.

[am. B.C. Regs. 384/73, s. 3; 562/74, ss. 3, 4; 492/82.]

4. (1) Notwithstanding section 2, a retail merchant may limit the number of containers in respect of which a refund is payable under sections 2 to 24 containers delivered up by each purchaser in each day and any additional containers in excess of 24 delivered up by that purchaser in that day are exempt from the provisions of the Act.

(2) Notwithstanding subsection (1), a retail merchant who sells or offers for sale beverages in a merchandising package which contains more than 24 individual containers at time of sale shall accept for refund, and refund on, the number of containers contained in that merchandising package at time of sale when delivered up in each day by the purchaser.

[en. B.C. Reg. 163/70, s. 2; am. B.C. Regs. 171/72; 172/72.]

5. A ticket information used under section 7 of the *Litter Act* shall be in the form set out hereunder and shall be composed of the following:

- (a) information;
- (b) summons;
- (c) enforcement officer's record;
- (d) report of conviction.

136/70

LITTER ACT
LITTER

CANADA
PROVINCE OF BRITISH COLUMBIA

} The undersigned, being duly sworn upon oath, deposes and says:

On the _____ day of _____, 19____, at _____ in the Province of British Columbia at _____ m.

Name _____

Address _____
(Street and number)

City _____ (Province) _____ Phone _____

did commit the offence indicated under the Litter Act.

SECTION 4

Discharge litter ☐ On land ☐
Dump litter ☐ Into fresh water ☐
Discard litter ☐
Dispose of litter ☐

SECTION 6

Establish camp ☐ without toilet facilities being provided ☐
Maintain camp ☐ without excavating and maintaining a pit toilet ☐
Abandon or leave camp without covering pit toilet ☐

SECTION 5

Discharge domestic sewage—

From trailer ☐ Into fresh water ☐
From camper ☐

Discharge domestic waste—

From portable housing unit ☐ On land ☐
From boat ☐
From houseboat ☐

Other Litter Act violations _____

The informant says that he has reasonable and probable grounds to believe and does believe that the person named above committed the offence indicated.

(Signature of informant) _____ (or Enforcement Officer)

Sworn before me the _____ day of _____, 19____.

Judge or Justice

In the name of Her Majesty the Queen you are therefore commanded to appear in the Provincial Court at _____, in the Province of British Columbia, on the _____ day of _____, 19____, at _____ m., to answer the above charge and to be further dealt with according to law indicated penalty _____ (Signature) _____

Enforcement Officer

Birthdate _____ Occupation _____ Sex _____
(Day, month, year)

[en. B.C. Reg. 164/70.]

6. Each of the following words and expressions is authorized to be used on a ticket information used under section 7 of the *Litter Act* to designate a violation under the section of the *Litter Act* appearing opposite the word or expression:

Section

- 3 discharge litter on land;
- 3 discharge litter into fresh water;
- 3 dump litter on land;
- 3 dump litter into fresh water;
- 3 discard litter on land;
- 3 discard litter into fresh water;
- 3 dispose of litter on land;
- 3 dispose of litter into fresh water;
- 4 discharge domestic sewage from a trailer into fresh water;
- 4 discharge domestic sewage from a trailer on land;
- 4 discharge domestic sewage from a camper into fresh water;
- 4 discharge domestic sewage from a camper on land;
- 4 discharge domestic sewage from a portable housing unit into fresh water;
- 4 discharge domestic sewage from a portable housing unit on land;
- 4 discharge domestic sewage from a boat into fresh water;
- 4 discharge domestic sewage from a boat on land;
- 4 discharge domestic sewage from a houseboat into fresh water;
- 4 discharge domestic sewage from a houseboat on land;
- 4 discharge domestic waste from a trailer into fresh water;
- 4 discharge domestic waste from a trailer on land;
- 4 discharge domestic waste from a camper into fresh water;
- 4 discharge domestic waste from a camper on land;
- 4 discharge domestic waste from a portable housing unit into fresh water;
- 4 discharge domestic waste from a portable housing unit on land;
- 4 discharge domestic waste from a boat into fresh water;
- 4 discharge domestic waste from a boat on land;
- 4 discharge domestic waste from a houseboat into fresh water;
- 4 discharge domestic waste from a houseboat on land;
- 5 establish a camp without toilet facilities being provided;
- 5 establish a camp without excavating and maintaining a pit toilet;
- 5 maintain a camp without toilet facilities being provided;
- 5 maintain a camp without excavating and maintaining a pit toilet;
- 5 abandon a camp without covering a pit toilet;
- 5 leave a camp without covering a pit toilet.

[en. B.C. Reg. 164/70.]

7. Where a person on whom a litter summons is served appears to defend the charge, the litter ticket information may be amended in the like manner and to the like extent as any information may be amended under the *Offence Act*.

[en. B.C. Reg. 164/70.]

8. Where a litter summons indicates the pecuniary penalty for the commission of the offence charged therein, instead of appearing before a Justice at the time and place specified in the litter summons, a person to whom a litter summons is delivered may, whether or not the information has been sworn to,

- (a) attend voluntarily before a Justice as directed on the summons and plead guilty to the offence described therein and pay the fine specified in the summons, or
- (b) cause to be delivered in accordance with the notice in that connection appearing on the summons, the fine specified in the summons, whereupon the person shall be deemed to have pleaded guilty to the offence with which he is charged in the summons and to have paid the fine imposed for the commission of the offence;

but no conviction need be drawn up or entered unless required by the person convicted for the purpose of reporting the conviction as required under the Act.

[en. B.C. Reg. 164/70.]

[Provisions of the *Litter Act* relevant to the enactment of this regulation: section 8]